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EXAMINER

BATTAGLIA, MICHAEL V

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/767,510	Applicant(s) WARREN, ROBERT W.	
	Examiner MICHAEL V. BATTAGLIA	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 3, 2009 has been entered.

Allowable Subject Matter

2. The indicated allowability of dependent claims 5, 6, 8, 13, 14, 16, 21, 22 and 24 if rewritten in independent form including all of the limitations of the base claim and any intervening claims is withdrawn in view of the amendment to the independent claims and in view of newly discovered references to Hall (US 6,925,526) and Okazaki et al. (US 5,896,364). Rejections based on the newly cited reference(s) follow.

Claim Objections

3. Claims 2, 3, 10, 11, 18 and 19 are objected to because of the following informalities:
- a.) In regard to claims 2, 10 and 18, replacing “the rotational speed” with --a rotational speed-- is suggested to avoid improper antecedent basis issues.
 - b.) In regard to claims 3, 11 and 19, replacing “the data storage device” on line 3 with --a data storage device-- is suggested to avoid improper antecedent basis issues.
- Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2627

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 9-12, 15, 17-20 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (hereinafter Nakamura) (US 5,808,995).

In regard to claim 1, Nakamura discloses a method comprising: dividing the storage medium (Fig. 6, element 301) into a plurality of logical zones (“18 sectors” of Col. 3, line 47), the storage medium having an inner diameter and an outer diameter (Fig. 6), each logical zone extending radially from the inner diameter to the outer diameter (Fig. 6); and writing data from a first stream of data within determined bounds of a first logical zone (“one sector” of Col. 3, line 52) of the plurality of logical zones for up to an end of the first logical zone (Col. 3, lines 39-56 and note that recording on an optical disk inherently writes data from a stream of data and, in standard CAV format recording described by Nakamura, a stream of data is written beginning on a concentric or spiral track within a first logical zone, continues on the track for up to the end of the first logical zone, and then continues on the track into the next logical zone¹). See Response to Arguments below for further explanation.

Alternatively, claim 1 reads on the standard CAV format method of Nakamura under the following interpretation. Nakamura discloses a method comprising: dividing the storage medium (Fig. 6, element 301) into a plurality of logical zones (“18 sectors” of Col. 3, line 47), the storage medium having an inner diameter and an outer diameter (Fig. 6), each logical zone extending radially from the inner diameter to the outer diameter (Fig. 6); and writing data from a first

¹ The claimed “writing data from a first stream of data within determined bounds of a first logical zone . . . for up to an end of the first logical zone” does not require the entirety of data from a first stream of data to be written exclusively within determined bounds of a first logical zone and instead reads on the writing of any portion of data

Art Unit: 2627

stream of data (stream of data written within “one sector” of Col. 3, line 52) within determined bounds of a first logical zone (“one sector” of Col. 3, line 52) of the plurality of logical zones for up to an end of the first logical zone (Col. 3, lines 39-56 and note that the stream of data written in one sector is written for up to an end of the one sector²).

In regard to claim 2, the dividing the storage medium into a plurality of logical zones of Nakamura inherently comprises determining a number of logical zones (“18 sectors” of Col. 3, line 47) based on a rotational speed of the storage medium and an output data rate (see Col. 3, lines 39-56).

In regard to claim 3, the dividing the storage medium into a plurality of logical zones of Nakamura inherently comprises determining a number of logical zones (“18 sectors” of Col. 3, line 47) based on a data transfer rate of a data storage device and an expected output data rate supported by the data storage device (see Col. 3, lines 39-56).

In regard to claim 4, Nakamura discloses that the method further comprises an index (Fig. 6, element 301b) for at least the beginning of the first logical zone (Col. 3, lines 43-46).

In regard to claim 7, under the alternate interpretation, Nakamura discloses that the method further comprises writing data from a second stream of data in a second logical zone of the plurality of logical zones for up to an end of the second logical zone (in the standard CAV format recording of Nakamura, the stream of data stored in concentric bands of tracks (see

from a first data stream within determined bounds of a first logical zone as long as the data is written at least up to the end of the first logical zone.

² Unlike the streams of data disclosed in Applicant’s specification, which “are interleaved with each other around the storage medium rather than stored in concentric bands of tracks” (Paragraph 0036), in the standard CAV format recording of Nakamura, a stream of data is stored in concentric bands of tracks (see Fig. 6 and Col. 3, lines 39-56). However, and the portion of the stream of data stored in concentric bands of tracks, which is stored in one sector/logical zone of one track of the concentric bands of tracks, is itself a stream of data. This stream of data is confined completely to the sector/logical zone in which it is stored and is not written outside of the sector/logical zone to which it is stored.

Art Unit: 2627

footnote 2) comprises a first stream of data, which is written into a sector/logical zone of one track of the concentric band of tracks, and a second stream of data, which is written into another logical zone/sector of a track of the concentric band of tracks).

In regard to claims 9-12 and 15, Nakamura discloses an apparatus (“recording and reproducing apparatus” of Col. 3, line 43) whose function corresponds to the method of claims 1-4 and 7 respectively (see the rejections of claims 1-4 and 7 above and note that storage medium 301 is a rotating storage medium (Col. 3, lines 41-43) and that a “recording and reproducing apparatus” which records and reproduces to/from an optical storage medium inherently has “a read/write head positioned to access data on the storage medium” (see Col. 3, lines 39-56)).

In regard to claims 17-20 and 23, the “recording and reproducing apparatus” of Nakamura (Col. 3, line 43) inherently has a computer readable medium having stored thereon a series of instruction that, when executed by a processor, cause the processor perform the method of claims 1-4 and 7 respectively (see the rejections of claims 1-4 and 7 above).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 8, 13, 16, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Hall (US 6,925,526).

In regard to claims 5, 13 and 21, Nakamura discloses the method, apparatus and medium of claims 1, 9 and 17 respectively that writes data from a first stream of data to a first logical

Art Unit: 2627

zone of the plurality of logical zones (“recording . . . of one sector” of Col. 3, lines 39-56).

But Nakamura does not disclose, prior to writing data from a first stream of data to a first logical zone of the plurality of logical zones, determining a current location on the storage medium; determining whether the current location is a beginning of the first logical zone; and responsive to determining that the current location is not the beginning of the first logical zone, waiting for the storage medium to rotate to the beginning of the first logical zone.

Hall discloses, prior to writing data from a first stream of data to a first logical zone (“desired data sector” of Col. 1, line 45) of a plurality of logical zones (“multiple sectors” of Col. 1, lines 39-40), determining a current location on the storage medium; determining whether the current location is a beginning of the first logical zone; and responsive to determining that the current location is not the beginning of the first logical zone, waiting for the storage medium to rotate to the beginning of the first logical zone (Col. 1, lines 39-52). Hall discloses doing so “[i]n order to access data” (Col. 1, lines 41-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method, apparatus and medium of Nakamura, prior to writing data from a first stream of data to a first logical zone of the plurality of logical zones of Nakamura, to determine a current location on the storage medium of Nakamura; determine whether the current location is a beginning of the first logical zone of Nakamura; and responsive to determining that the current location is not the beginning of the first logical zone, wait for the storage medium to rotate to the beginning of the first logical zone as suggested by Hall, the motivation being to access the data of Nakamura.

Art Unit: 2627

In regard to claims 8, 16 and 24, Nakamura discloses the method, apparatus and medium of claims 1, 9 and 17, respectively, which reads the data from the first stream of data to the storage medium for up to an amount of time corresponding to a rotational speed of the storage medium and size of the first logical zone (Col. 3, lines 39-56). But Nakamura does not disclose determining a current location on the storage medium; determining whether the current location is a beginning of the first logical zone, and responsive to determining that the current location is not the beginning of the first logical zone, and waiting for the storage medium to rotate to the beginning of the first logical zone.

Hall discloses determining a current location on the storage medium; determining whether the current location is a beginning of a first logical zone (“desired data sector” of Col. 1, line 45) of a plurality of logical zones (“multiple sectors” of Col. 1, lines 39-40), and responsive to determining that the current location is not the beginning of the first logical zone, waiting for the storage medium to rotate to the beginning of the first logical zone; and reading the data from a first stream of data to the storage medium for up to an amount of time corresponding to a rotational speed of the storage medium and size of the first logical zone (Col. 1, lines 39-52). Hall discloses doing so “[i]n order to access data” (Col. 1, lines 41-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method, apparatus and medium of Nakamura, to determine a current location on the storage medium of Hall; determine whether the current location is a beginning of the first logical zone of Hall, and responsive to determining that the current location is not the beginning of the first logical zone, wait for the storage medium to rotate to the beginning of the first logical zone as suggested by Hall, the motivation being to access the data of Nakamura.

Art Unit: 2627

6. Claims 6, 14 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Hall as applied to claims 5, 13 and 21 above, and further in view of Okazaki et al. (hereinafter Okazaki) (US 5,896,364).

The combination of Nakamura in view of Hall discloses the method, apparatus and medium of claims 5, 13 and 21 wherein data is written from a first stream of data to a first logical zone of the plurality of logical zones. However, Nakamura in view of Hall does not disclose that the writing comprises writing data starting at an outer diameter of the storage medium and progressing toward an inner diameter of the storage medium.

Okazaki discloses writing comprising writing data starting at an outer diameter of a storage medium and progressing toward an inner diameter of the storage medium (Col. 2, lines 44-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the writing of data from a first stream of data to a first logical zone of the plurality of logical zones of Nakamura in view of Hall to comprise writing data starting at an outer diameter of a storage medium and progressing toward an inner diameter of the storage medium as suggested by Okazaki, the motivation being to write data in a manner known in the art to be successful for recording data on a medium.

Response to Arguments

7. Applicant's arguments filed February 3, 2009 have been fully considered but they are not persuasive. Applicant argues that, because the claims have been amended to "clarify that data is written from the first stream of data to the storage medium for up to an end of the logical zone," "according to the independent claims, data written from the first stream of data is not written

Art Unit: 2627

outside of the first logical zone” and the claimed invention is distinguished from “Nakamura[, which] discloses that data is written on concentric tracks on a storage medium” (Applicant’s Remarks at 8-9). However, for the reasons explained in the rejections above, because the claims read on a stream of data written on a concentric or spiral track within a first logical zone for up to the end of the first logical zone and then into the next logical zone, the claims do not require data written from the first stream of data to not be written outside of the first logical zone. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In addition, Applicant’s arguments do not address the interpretation in which the claimed “first stream of data” is met exclusively by the portion of the stream of data of Nakamura written into one sector (i.e., the first sector/logical zone) of one concentric track of storage medium of Nakamura. Under this interpretation, even if the independent claims did require “data written from the first stream of data [to] not [be] written outside of the first logical zone,” the independent claims would still be met by Nakamura.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL V. BATTAGLIA whose telephone number is (571)272-7568. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, A. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael V. Battaglia/
Primary Examiner, Art Unit 2627